What is claimed is:

1.   A distributed pipeline scheduling method for a
2 system which includes a plurality of input ports for
3 inputting data, a plurality of output ports for
4 outputting data, a data switch element for switching the
5 data input from the input ports and transferring the
6 data to the output ports, and a scheduler having a
7 distributed scheduling architecture for controlling the
8 data switch element, and determines connection
9 reservations between the input ports and the output
10 ports, comprising the steps of:
11   causing the scheduler to independently assign
12 time slots to information transfer processing and
13 reservation processing; and
14   processing information transfer processing and
15 reservation processing in the assigned time slots in a
16 pipeline fashion.

2.   A method according to claim 1, wherein
2   the scheduler includes N (N is a natural
3 number) distributed scheduling modules for performing
4 information transfer processing and reservation
5 processing in units of time slots, and
6   the step of processing comprises the step of
7 determining a connection reservation, by using the
8 distributed scheduling module, for a predetermined time

9   slot at a time point after a lapse of a time

10 corresponding to 2N-1 time slots from a time slot from

11 which the reservation processing is started.

3.   A distributed pipeline scheduling system

2   comprising a plurality of input ports for inputting data,

3   a plurality of output ports for outputting data, a data

4   switch element for switching the data input from the

5   input ports and transferring the data to the output

6   ports, and a scheduler having a distributed scheduling

7   architecture for controlling the data switch element,

8   wherein said scheduler comprises a plurality

9   of input modules for performing reservation processing

10 for different time slots at the same time in a pipeline

11 fashion, and

12   said input modules respectively comprise

13 information transfer processing means and reservation

14 processing means for performing information transfer and

15 reservation processing for different time slots at the

16 same time in a pipeline fashion.

4.   A distributed scheduler for distributed

2   pipeline scheduling which is used by a packet switch in

3   a packet switching system, comprising

4   a plurality of input modules respectively

5   having output port reservation information receiving

6   sections, allocators, and output port reservation

7 information transmitting sections and serving to perform

8 distributed scheduling,

9 wherein said output port reservation

10 information receiving sections, allocators, and output

11 port reservation information transmitting sections

12 simultaneously execute processing for different

13 reservation time slots.